SOME NEW BOOKS.

The Races of Man.

The latest addition to "The Contemporary Science Series" published by the Scribners, is an outline of anthropology and ethnography, "The Races of Man," by J. Deniker, Chief Librarian of the Museum of Natural History, Paris. Although the volume contains some six hundred pages, it professes only to summarize the explanations of the facts relating to the subject, though the facts themselves are set forth with a close approach to completeness. As technical terms, whenever used, are explained and annotated, the book is evidently designed, not for students of the sciences dealt with, but for all those who desire to obtain rapidly a general notion of ethnography and anthropology. Those who wish for further details on particular points may avail themselves of the numerous bibliographic notes which the author has placed at the foot of his pages. We should add that the illustrations intended to elucidate the text have been selected with great care.

Ought we to speak of "races" of man? Darwin thought it "almost a matter of indifference whether the so-called races of man are thus designated, or ranked as 'species' or 'sub-species,' but the latter term appears the most appropriate." The author of the book before us, however, uses the word "race" in preference to that of "sub-species," because the former is almost universally adopted nowadays to designate the different physical types of mankind. At the same time he concedes that, in the case of man, the existence of fertility or of non-fertility between the different groups has not been experimentally proved so as to enable us to decide whether the groups should be termed "races" or "species." To a dozen facts adduced in favor of one of the solutions, namely, an alleged non-fertility, and to general theories in regard to half-breeds, can be opposed an equal number of facts and the no less general hypothesis of reversion to a primitive type. Again, almost all the facts in question are borrowed from cross-breeding between the whites and other races. No one has ever tried cross-breeding between the Australians and the Laus, or between the Bushmen and the Patagonians. When we speak of "races" of men, however, we use the word in a very broad sense, different from that given to it in zoology and zootechnics.

It means the sum total of somatological characteristics, once met with in a real union of individuals, but now scattered in fragments of varying proportions among several "ethnic groups," from which it can no longer be differentiated, except by a process of delicate analysis. The differences between "races" are shown in the somatological characteristics which are the resultants of the continual struggle in the individual of two factors: Variability, that is to say the production of the dissimilar, and heredity, that is to say the perpetuation of the similar. There are the differences in outer form, in anatomical structure and in the physiological functions manifested in individuals. The study of these characters is based on man considered as an *individual* or as a zoological group. On the other hand, the differences between "ethnical groups" are the product of evolutions subject to other laws than those of biology, laws still very dimly apprehended. They manifest themselves in ethnical, linguistic, or social characteristics. The study of them is based on the grouping of individuals in *societies*. The science which concerns itself more especially with the somatological characteristics of the genus homo, whether considered as a whole in his relation to other animals or in his varieties, bears the name of anthropology; that which deals with the ethnical characteristics is called ethnography in some countries and ethnology in others. The last-named science should concern itself with human societies under all their aspects; but, as history, political economy, &c., have already taken possession of the study of civilized peoples, there only remain for ethnography the peoples without a history, or those that have not been adequately treated by historians.

I.

If we compare man with the anthropoid apes which certainly of all animals most resemble him, we observe the following principal differences. Instead of holding himself in a bending position and walking supported on his arms, man walks in an erect attitude, the truly biped mode of progress. In harmony with this attitude, his vertebral column presents three curves, cervical, dorsal and lumbar, very definitely indicated, while they are only faintly marked in the anthropoids, and almost absent in the monkeys. This somatic character, moreover, is graduated in man; in civilized men the curvature mentioned is more marked than among savages. To what does man owe his erect and biped attitude? According to Prof. Ranke, the excessive development of the brain, while conducive to enlargement of the skull, would, at the same time, determine the change of attitude in a being so imperfectly and primitively biped as was man's progenitor. In this way would be assured the perfect equilibrium on the vertebral column of the head made heavy by the brain. There are several peculiarities in the anatomical structure of man compared with that of the anthropoid apes which give this theory an air of plausibility. On the other hand, Broca and several other anthropologists see in the biped attitude one of the conditions of the development of the brain, inasmuch as that attitude alone assures the free use of the hands and extended range of vision. Similar views have been lately put forward by Munroe and Turner. Touching this controverted point, our author directs attention to the fact that, at birth, man still bears traces of his quadrupedal origin; he has then scarcely any curves in the vertebral column. The cervical curve only shows itself at the time (about the third month) when the child begins to "hold up its head" in the sitting posture to which it gradually becomes accustomed. Then, as soon as the child begins to walk (the second year), the prevertebral muscles and those of the loins act upon the lower regions of the spine, and produce the lumbar curve. For these reasons, Mr. Deniker is disposed to accept the theory that the erect attitude characteristic of man is chiefly determined by the excessive development of his brain and the consequent development of the brain case.

It is this excessive development of the brain that constitutes the principal difference between man and the anthropoid apes. The average weight of a man's brain in European races is 1360 grammes. These figures may rise to 1,675 grammes in certain instances, and fall to 1,025 in others. Brains weighing less than 1,000 grammes are generally considered abnormal and pathological. On the other hand, the brains of the great anthropoid apes (gorilla, chimpanzee and orang-outang), the only ones comparable to man in regard to weight of body, have an average weight of 360 grammes. This weight may rise to 420 grammes in certain isolated cases, but never exceeds this figure. Even in these cases, it only represents one half of one per cent. of the total weight of the body, while, in European man, the proportion is that of at least 3 per cent. In the case of man, the excessive development of the brain and brain case is correlative with a reduction of the facial part of the skull. In this respect again, there is an appreciable difference between him and the anthropoid apes. With the latter, the facial portion forms a veritable muzzle; rises, massive and bestial, *in advance* of the skull; while, with man, it is not only much reduced in size, but placed *below* the skull. All the other characters which distinguish man from the anthropoid apes are only the consequences either of the great enlargement of his brain case, at the expense of the maxillary part of the face, or of the erect attitude and biped mode of progression. To the latter cause is due the fact that the first toe, which, in the anthropoid apes is opposable, like the thumb, is, in man, unopposable. All the characters that distinguish man from the anthropoid apes have a tendency to become more marked with the development of civilization, and of life in a less natural environment. The wisdom tooth, for instance, seems to be in a state of retrogressive evolution among several populations. In the higher races, the little toe is tending to become atrophied, and to be formed of but two phalanges instead of three. Pfitzner has noted this reduction in 30 feet out of 111 that he examined.

The difference between man and the ape in regard to teguments is not so appreciable as has been at times asserted. Man comes into the world covered almost entirely with *lanugo*, or short, fine hair. This hair is afterward replaced in early infancy by permanent hair, which occupies only certain parts of the body. Primitive man, it may be presumed, was entirely covered with hair, except, perhaps, on the front part of the trunk, where natural selection in the struggle with parasites (infesting that warm part of the mother's body in contact with offspring when these were being suckled) would soon cause the disappearance of the hair from that place, as we see in the case of apes. It is now recognized that the disposition of the hair of the arms in man does not recall that of the anthropoid ape, as Darwin thought, but rather resembles the disposition observed among the monkeys. Instead of being directed upward toward the bend of the elbow, man's hair is turned downward toward the wrist in the higher half of the arm, and transversely in its lower half. The anthropoid apes, being accustomed to cover their heads with their arms, or to keep them above their heads so as to cling to the branches of trees, it is suggested that the hair in their case may have taken an opposite direction to that observed in the primitive type of the Primates through the simple influence of gravity. It should, of course, be kept in view that all the distinctions mentioned are very marked only when adult individuals are compared, for they become accentuated with age. The fœtus of the gorilla at five months bears a very close resemblance to the human fœtus of the same age. A young gorilla and a young chimpanzee, by their globular skull, their not very prominent muzzle and other traits, remind one of young negroes. In comparing the skulls of gorillas from the fœtal state through all the stages of growth to the adult state, we can follow step by step the transformation of a face almost human into a muzzle of the most bestial aspect, as a result of the excessive development of the face in front and below in the anthropoid ape.

Here may be raised the question whether races of men with tails exist. Mr. Deniker would relegate to the domain of fable the cases of this kind which are announced from time to time in publications for the popularization of science. The costumes of certain populations have given rise to the fable of men with tails; thus the Naga of Manipur, in gala costume, wears a caudiform appendage. Isolated cases of men having as an anomaly a caudal excrescence more or less long, and either free, or united to the trunk, are undoubtedly known to science, but no trustworthy description has been ever given of tailed populations. Quite recently Lartschneider has demonstrated that the ilio-coccygian and pubio-coccygian muscles in mammifera have lost in man their character of symmetrical and paired skeleton-muscles, and are driven back toward the interior of the pelvis as unpaired muscle-plates (fibres of the *levator ani*). Primitive man never had a caudal appendage after he acquired the biped attitude; the disappearance of the tail was, in truth, one of the indispensable conditions of that attitude.

II.

Now let us note some of the principal morphological characters by which the races of man are distinguished from each other. Of all the physical criteria, which serve to differentiate, stature has been regarded hitherto as eminently variable. The variations, however, are produced in a similar way in all races, and cannot exceed certain limits imposed by race. Even from birth stature varies. Setting aside individual variations we find the new-born on an average a little taller in Paris than in St. Petersburg. As a rule, with people low in stature, the new-born are shorter than those of people of greater stature. But this is not true of the French. French babies are big babies. French adults are short. The limits of height within which the normal man may vary are four feet one inch, and six feet six and three-fourths inches. Below the lower limit begins an abnormal state, often pathological, called dwarfism, and above the higher limit we encounter another state called giantism. Dwarfs may be but fifteen inches high, like the little feminine dwarf Hilany Agyba of Sinai, and giants may be nine feet five inches tall, like the Finn Caianus. Even the extreme statures which it is agreed to call normal are very rare. That giantism as well as dwarfism is pathological is evident from the acknowledged sterility of giants, as well as of dwarfs.

So far as trustworthy statistics go, the extreme averages, of different populations in respect of stature fluctuate from 4 feet 6 inches with the negrillo Akkas to 5 feet 10.5 inches with the Scots of Galloway. But if we set aside the pygmy tribe of the Akkas, quite exceptional as regards stature, and the Scots of Galloway and even the Scots of the North in general, who form a group entirely apart, we arrive at 4 feet 9 inches and 5 feet 9 inches as the extreme averages in the different populations of the globe. Then, again, if we put on one side the exceptional group of the negritos (Akka, Aeta, Andamanese and Saki) we shall find the rest of mankind presenting statures which ascend by degrees, almost uninterruptedly, from millimetre to millimetre between 1.54m. and 1.75m., which makes the average 1.65m., or 5 feet 5 inches. Short stature is rare in Africa, being found only among the Negrillo pygmies and the Bushmen; in South America a few tribes of low stature are met with, but the true home of low-statured populations is Indo-China, Japan and the Malay Archipelago. In the remaining portion of Asia low stature is only met with in western Siberia and among the tribes called Kols and Dravidians in India. Statures *somewhat* under the average predominate in most of the rest of Asia, and in eastern and southern Europe, while statures somewhat above the average are exhibited by the Irano-Hindu populations, the Afrasian Semites and the inhabitants of Central Europe, as well as the Melanesians and Australians. On the other hand, what may be termed high stature is limited to northern Europe, to North America, to Polynesia, and especially to Africa, where it is met with as well among negroes as among Abyssinians. The height of women is always lower on an average than the height of men. The general difference was estimated by Topinard at 12 centimetres, and some five hundred measurements made by our author have led him to accept the computation.

Whether environment has an influence on stature is a controverted question. Since the time of Villerme the assertion has been often repeated that well-being is favorable to increase in stature, and that hardship has a stunting effect. There are facts which seem to prove it. In a population supposed to be formed of a mixture of many races the well-fed upper classes appear to possess a higher stature than the lower classes. Our author suggests that, even here, the influence of race may be at work, for the race preponderant in the aristocracy and well-to-do classes may not be that which predominates in the working classes. According to Ammon and Lapoude the population of all towns in France and of some in Germany is taller than that of the country. In England, on the other hand, the urban population taken as a whole is shorter than the rural. Mr. Deniker's conclusion is that the influence of environment cannot be denied in individual cases, as with miners; it may raise or lower stature by stimulating or retarding, and even arresting, growth; it is not demonstrated, however, that such a change can be perpetuated by hereditary transmission, and become permanent.

III.

The most important product of the skin as regards the differentiating of races is undoubtedly the hair of the head and body. The general structure and number of the hairs hardly show any difference between race and race; on the other hand, the length of the hair of the head, the relation of this length in one sex to the length in the other, the nature of the hair, its consistence, its transverse section, its form and its color, vary greatly according to race. Four principal varieties of hair are usually distinguished in anthropology according to their aspect and nature; straight, wavy, frizzy and woolly. Straight and smooth hair is ordinarily rectilinear, and falls heavily in bands on the sides of the head; such is the hair of the Chinese, the Mongols and the American Indians. It is ordinarily stiff and coarse. Wavy hair forms a long curve, or imperfect spiral, from one end to the other. It is called curly when it is rolled up at the extremities. The whole head of hair when wavy produces a very pleasing effect. The type is very widespread among Europeans, whether dark or fair. We come, thirdly, to the frizzy type, in which the hair is rolled spirally, forming a succession of rings a centimetre or more in diameter. Such is the hair of the Australians, the Nubians and certain mulattos. We have, lastly, the type of woolly hair, which is characterized by spiral curves exceedingly narrow; the rings of the spiral are very near together, numerous, well rolled, and often catch hold of each other, forming tufts and balls, the ultimate result resembling sheep's wool. The type admits of two varieties. When the hair is relatively long and the spirals sufficiently broad, the whole head looks like a continuous fleece, as with certain Melanesians and the majority of negroes. When, on the other hand, the hair is short, and consists of very small spirals, it has a tendency, when tangled, to form little tufts, the dimensions of which vary from the size of a pea to that of a pepper pod; these tufts are separated by spaces which appear bald. This variety of the woolly type is widespread among Hottentots and Bushmen; the majority of negroes have it in their infancy, and even at adult age, especially toward the temples, where the hair remains very short. A microscopical examination of transverse sections shows that a difference of form exists between the four types of hair.

A certain correlation seems observable between the nature of the hair and its absolute and relative length. Thus straight hair is at the same time the longest, while woolly hair is the shortest; wavy hair occupies an intermediate position. Moreover, the difference between the length of the hair of men and women is almost inappreciable in the two extreme types. In certain straight-haired races, for instance, the hair of the head is as long with men as with women; one need but call to mind the plaits of the Chinese, or the beautiful heads of hair of the red Indians; among the Bushmen, Hottentots, and even negroes, on the other hand, the hair of the head in women is not appreciably longer than among the men. It is in the categories of wavy hair that the difference is marked. With European men, the length of the hair rarely exceeds thirty or forty centimetres, while with women it averages sixty-five to seventy-five centimetres, and may attain, in exceptional cases, to two metres, or six feet six inches. The general relation of the pilose system on the face and, indeed, on the rest of the body seems to be in relation to the nature of the hair of the head. Straight haired races (American Indians, Mongols and Malays) are ordinarily glabrous, the men having hardly a rudimentary tuft of beard. In the frizzy-haired races the development of the pilose system is considerable. Among the woolly-haired races, glabrous types, like the Bushmen, are found side by side with rather hairy types, like the Ashantis. It is among the wavy-haired races that the longest and thickest beards are found. It is well known that the beard is one of the sexual characteristics of man; nevertheless, many fine beards are found among women in southern Europe, and especially in Spain, while in the glabrous races a few straggling hairs are all that can be seen at the corners of the mouth and on the chin.

The distribution of the pigment which gives the coloring to the skin and to the iris, as well as to the hair, varies much according to race, and forms a good ethnological criterion. As the pigment exists in all races, and in all parts of the body, it is to its more or less plentiful accumulation in the cells that the coloring of the skin and the skin's derivatives is due. The modifications of the pigment produced by the action of air and sun vary even among Europeans, according to the coloring peculiar to their race. Thus, among the fair races of northern Europe, the skin, burnt by the sun, becomes red, as if swollen; on the other hand, among the dark-colored races of the Mediterranean, it takes a bronze tint. There is thus, between these two races, a notable difference, if not in the chemical nature of the pigment, then, at least, in regard to the quantity. It is the same with other races, and ten principal shades of color can be easily distinguished. Thus there are three shades of white and three shades of yellow, while, among the dark-skinned races, at least four shades may be observed. The chromatic table, almost universally adopted by anthropologists, shows thirty-four shades.

IV.

It is commonly said that only in fair European races are blue and gray eyes found; perhaps there may be some examples in the Turco-Ugrian races; it is certain that light brown eyes are met with among some Mongolians. In all the other populations of the earth, the eyes are dark-brown or black. It is the same with the coloring of the hair. This varies appreciably among the wavy-haired races, much less so among the straight and frizzy-haired races, and remains always black among the woolly-haired races. Four principal shades can be distinguished in the hair, namely, black, dark-brown, chestnut brown (*chatain*) and fair. In the last shade, golden must be separated from flaxen and dull gray-reddish. Red hair of all shades is only an individual anomaly, accompanied almost always by freckles on the face and neck. There are no red-haired races, but light and chestnut hair may have a reddish reflection in it. Red hair is very common in countries where several white-skinned races (brown or fair) are intermixed.

Among a dark-haired people which has remained free from intermixture, or has intermingled only with dark-haired races, an exceptional red-haired individual presents a pathological condition called "erythrism" by Broca. This pathological condition is only exhibited in certain races; at least, up to the present time, no example has been adduced among the negroes; on the other hand, erythrism is somewhat common among the Jews of Europe, and, among such Jews, it is most frequently associated with frizzy hair. It is well known that fair hair in all its shades is met with mainly among the European populations of the North; it is much rarer in the South of Europe. There are, it has been computed, 16 fair-haired individuals to every 100 Scotchmen; 13 to every 100 Englishmen; but only 2 to every 100 Italians. On the other hand, brown hair is met with in 75 cases out of 100 Spaniards, 39 out of 100 Frenchmen, but only in 16 cases out of 100 Scandinavians. The fair variety is especially rare among straight-haired races; it is found, however, among the western Finns and among certain Russians. At birth, the body possesses less pigment than in the adult state. Everybody has observed that the hair of children, often light-colored at birth and in early years, becomes darker as they grow up. Almost all European children are also born with blue eyes, and the pigment in the iris only begins to increase, transforming the eyes into gray, brown or black, at the end of some weeks, or even months, after birth. New-born Chinese, Malays and Calmucks are much less yellow than the adults of those people, and, we may remark, lastly, that negroes, at birth, are of a reddish chocolate or copper color, which only becomes darker at the end of three or four days, beginning in certain places.

Among adult negroes, the pigment is visible not only on the skin, in the hair and the iris, but also in the sclerotic, in the mucous membrane of the lips, the mouth and the genital organs; the internal organs even are not free from it; the liver and the spleen are often colored with black spots of pigment, and even the brain contains numerous pigmented points in its envelopes and in its gray matter. Such an abundance of pigment would become a danger to whites, as is proved by certain diseases, as, for instance, melanism, in which the pigment especially invades the viscera, and Addison's disease, in which there is an overproduction of pigment in the skin and the mucous membranes. The pathological absence of pigment which may occur in negroes as well as in whites, is termed albinism. This, if complete, that is to say if not only the skin and hair, but also the iris, is deprived of pigment, may be accompanied by somewhat serious affections of the eyesight. In every respect, albinos are weakly, and, probably, not fertile among themselves.

The eyes furnish some racial differences of form as well as color. Thus we distinguish the ordinary eye, and the oblique, or narrow, Mongolian eye. The nose, by the variety and fixity of its forms, presents one of the best characters for distinguishing races. It may be more or less flattened, as among negroes, Melanesians and Mongolians, or, more or less prominent, as among Europeans, Jews and Arabs. Its profile may be straight, and sometimes sinuous, as with Europeans and Turco-Tatars; or concave, as with certain Finns, Bushmen, Lapps and Australians; or convex, and sometimes arched, as with the American red Indians and the Semites. At birth, and during early infancy, the nose is most frequently concave, with the tip turned up. It only becomes straight or convex in the adult. In old age it has a tendency to become convex, with the tip turned down. In the dead body, it always takes the arched form. The ears present few characteristic traits for distinguishing races, but the same cannot be said of the lips. The latter are thin in the so-called white races and among Mongols; very thick and protruding among the negroes; somewhat thick among the Malays and Melanesians. A few other racial peculiarities may be noticed. The neck is ordinarily long and thin among negroes and Abyssinians; on the contrary, it is short among the majority of American Indians; the shoulders are very broad among the women of the latter. Usually, a long neck is associated with a form of trunk like an inverted pyramid and a high stature, while a short neck surmounts a cylindrical trunk, and is associated with a low stature. Ensellure, a name given to a strongly marked curve of the dorso-lumbo-sacral region, is especially marked among Spanish women; their lumbar incurvation is such, and the movements of their lumbar vertebræ are so extensive that they are able to throw themselves backward so as even to touch the ground. Ensellure is more marked among negroes than among whites. It is sometimes merely a consequence of abdominal obesity, pregnancy or steatopygia. By the last-mentioned term is designated an excessive projection of the buttocks, due to the accumulation of subcutaneous fat. Steatopygia is especially marked in the Bushmen women, in whom it begins to develop only from the age of puberty; it is only met with in all its characters among populations into the composition of which enters the Bushman element, as among the Hottentots and the Nama. It is needless to enlarge on other exterior characters by which races of men may be distinguished; on the form of the trunk and of the limbs; on the leg with poorly developed calf, and the foot with a prominent heel, which are observed among certain negroes, but not among all; or on the more or less diverging big toe, which is remarked among the majority of the peoples of India, Indo-China and the insular world dependent upon Asia, from Sumatra to Japan. The breasts of women present certain ethnic variations of form. It is especially among negresses that we meet with conical and pyriform mammæ and digitiform nipples, while mammæ shaped like the segment of a sphere predominate among Mongolian women and among European women of the fair race. Women of the southeast of Europe, and of hither Asia have, for the most part, hemispherical breasts.

V.

If we pass to physiological characters, we find comparatively few by which races may be distinguished. The activity of transformations in the system presents differences according to climate but not according to race. Thus the alimentary supply is conditioned solely by the heat required. The temperature of the body hardly varies two or three tenths of a degree among peoples so different as regards both ethnological type and mode of life as are the French of the north and the Fuegians. Among negroes the temperature appears to be a little lower than that of Europeans. Frequency of respiration seems to be greater among uncivilized peoples than with the inhabitants of Europe. For the circulation of the blood there are a few scattered data. The pulse is the same among the Fuegians and the Karantchi of Chinese Turkestan, as among Europeans; it is a little faster among the whites and the negroes of the United States and much faster among the red Indians of America than among the Khirghiz. The number of red globules in the blood varies but little according to race. Europeans have, on an average, five millions of them to the cubic millimetre; Hindus and negroes half a million less. The difference seems insignificant when we call to mind that the number of these constituents of the blood may vary by a million in the same subject, according to the state of his health or of his nutrition. Certain travellers have asserted that they could recognize a population by its odor, and the author of this book concedes that some ethnic groups, and more particularly the negroes and the Chinese, have their specific smell, which gets fainter with scrupulous cleanliness, but never disappears. In the case of the negro, the odor is due principally to the abundance of the secretion from his very voluminous and numerous sebaceous glands. It was on this property that the planters relied for putting their dogs on the scent of fugitive blacks. The odor of musk exhaled by the Chinese is attested by a great amount of evidence; the specific smell of the Australians and New Caledonians, also, seems to be duly authenticated.

In the chapter on physiological characters our author has occasion to discuss the influence of environment upon race, and in connection with this topic he is led to consider the adaptability of the white races to the tropics. We should first note that the effect of environment has been greatly exaggerated. Negroes are not black because they inhabit tropical countries, seeing that the Indians of South America, who live in the same latitudes, are yellow; Norwegians and Great Russians, who are fair and tall, live side by side with the Laplanders and the Samoyeds who are dark and of very low stature. It has been frequently alleged that the Jews who emigrated to India after the destruction of Jerusalem by Titus became as black as the indigenous Tamils among whom they lived. This is so far from being true that, in India, the name of "White Jews" is given to the descendants of true Jews (who really are white) to distinguish them from the "Black Jews," or Tamils, converted to Judaism. The assertion was reproduced by Darwin, and has since been often repeated, that the Wurtemburgers of blond type who emigrated to the Caucasus in 1816 had become black. As a matter of fact, they are as fair as their compatriots who have remained in Germany. The question whether every race of mankind can live and reproduce itself, or, in other words, become acclimatized, on any point of the globe, can only be resolved when systematic observations have been undertaken by each race and pursued during several generations. At present there are no exact data on this subject, except for the white race, and, in some measure, for the negroes. Without reckoning peoples admitted to be cosmopolitan, like the Jews and the Gypsies, our author deems it certain that the majority of European peoples can, as a race, get acclimatized in the most diverse regions, as the English and French have done in Canada, the Portuguese and Germans in Brazil, the Spaniards in Mexico, Central America and the greater part of South America, the English in Australia and the Hollanders in South Africa. The alleged failures of acclimatization have taken place in countries where there has never been any systematic European colonization, as in India and in Java; even in those countries, it is known that there have been isolated cases of the collective acclimatization of several families.

According to Clements, Markham and Elisee Reclus, the Englishman, not only as an individual, but as a race, is able to live in the Cisgangetic peninsula. Many generations of Englishmen have flourished in various parts of India. Numerous examples could be cited of children being acclimatized without detriment to their health or strength. According to Francis Galton, the mortality in 1877 of European soldiers in India, (12.7 per 1,000) was less than that of native soldiers (13.4) and much less than that of Hindus in general, which is 35. In the Dutch Indies, Dutchmen have kept themselves in health for several generations. As to the fertility of acclimatized families, this has been established outside of hybridization. It has been possible to trace back certain English families in Barbadoes for six generations. As much may be said of the French in the Islands of Mauritius and Reunion. In the Brazilian province of Rio Grande do Sul, that is in a sub-tropical region, it has been ascertained that there are three or four generations of German colonists whose children enjoy very good health. In Matabeleland, which is almost tropical, there are already two or three generations of Dutch. When it is said of certain regions that they are not colonizable by Europeans it is merely implied that the sacrifice of life entailed by acclimatization is out of proportion to the advantages to be gained by colonization.

Mr. Deniker, for his part, seems to have no doubt that the white race possesses the aptitude for acclimatization in all countries, provided, of course, it consents to make the necessary sacrifice for several generations. At the same time, he admits that certain European peoples are more capable than others of becoming acclimatized in tropical countries: that Spaniards, Italians and Provencals can become sooner acclimatized in Africa and equatorial America than the English and the North Germans.

Still other criteria by which races of man may be differentiated are pathological characters. It is a long-demonstrated fact that negroes are proof against the contagion of yellow fever, and that they resist much better than Europeans the dangerous intermittent fevers which prevail on the coast of Africa. Yet although savage peoples enjoy certain immunities, they are, on the contrary, very susceptible to the infectious diseases which civilized peoples introduce among them; whole tribes have been exterminated by syphilis, measles and consumption in South America, Polynesia and Siberia. There are also diseases peculiar to certain populations, such, for example, as the *sleeping sickness* among the Wolofs and Songhai, which manifests itself in an invincible tendency to sleep. There is, on the other hand, no foundation for the often-repeated assertion that savage peoples are not afflicted by nervous and mental diseases. Genuine cases of the so-called "great hysteria" of Charcot have been observed among negresses in Senegal and among Hottentot women and Kaffirs as well as in Abyssinia and Madagascar. Other nervous diseases have been noticed among the Hurons and Iroquois, and in New Zealand. Some forms of neurosis seem to be limited to certain ethnic groups. Such is the "amok" of the Malays, a sort of furious madness, perhaps provoked by suggestion. Developed especially among the Malays, it is also met with among the Indians of North America, where it has been called "jumping" by the whites. Similar diseases have been noted among the Ostiaks and other natives of Siberia, among the Tagals of the Philippines and among the Siamese. Under the name of "Latha," the Malays designate the species of madness which impels women to undress before men, or to throw children up in the air, in imitation of a game of ball. The same name is given to a mental state in which the patient is afraid of certain words, such as tiger or crocodile this form of nervous disease is met with somewhat frequently, not only among the Malays, but also among the Tagals and the Sikhs of India.

VI.

Among the interesting topics touched upon in that part of the book which deals with ethnography, Mr. Deniker devotes a little space to the Aryan question, about which we used to hear so much. Most historians believed until quite recently that the Euscarians and perhaps the Ligurians or Lygians, as well as the Iberians and the Pelasgian Tursans, or Turses of the three southern peninsulas of the European Continent were the autochthones, or rather the oldest European peoples known to history. If this hypothesis were accepted, the peoples named would be the probable descendants of the palaeolithic Europeans, the races of Neanderthal, Spy and Chancelade. Further, according to the philologists and historians, these peoples spoke non-Aryan languages, and, at a certain period, which D'Arbois de Joubainville places vaguely at twenty or twenty-five centuries B. C., Europe was invaded by the Aryans coming from India to impose their language on the autochthones. The Basque language of the present day, alleged to be derived from the Euscarian, is supposed to be the only dialect surviving the transformation. The central point for the ethnographic history of Europe is or was, according to the philologists, the arrival of the Aryans. Who were these Aryans? It is no part of Mr. Deniker's plan to write the history of the Aryan controversy, and he deems it enough to say that men of acknowledged authority in science like Pott, Grimm and Max Muller maintained for a long time, but without any solid proof, the existence not only of a primitive Aryan language, which gave birth to the dialects of every primitive people of Europe, but also of an "Aryan race," supposed to have sprung up "somewhere" in Asia, one part migrating toward India and Persia, while the remainder made its way, by slow stages, to Europe. Two generations of scientific men accepted this hypothesis, although, after all, it had no other foundation than such aphorisms as "*ex oriente lux*," put forward by Pott, or "the irresistible impulse toward the west," invented by Grimm.

It is not to be overlooked, however, that objections to this hypothesis were raised by recognized authorities almost as soon as it was promulgated; they came from philologists like Latham (1855), ethnographers like Omalius d'Halloy and anthropologists like Broca (1864); but it was only about 1880 that a somewhat strenuous reaction took place against the current idea. The reaction originated in the camp of the philologists themselves. De Saussure, Sayce and others, reverting to the ideas expressed long before by Benfey, pointed out that the assumed close relationship between Sanscrit and Zend, and the primitive Aryan language, rests solely on the fact that the archaic forms of these two dialects are preserved to the present time in written monuments, while the Aryan languages of Europe do not possess documents so ancient. They maintained further that certain European languages of the present day, such as Lithuanian, for instance, are not nearer the primitive Aryan forms than are the Asiatic dialects. As to the Asiatic origin of the Aryans, a rude blow was struck at this hypothesis by Poesche and Penka, who, assuming the truth of the assumption that Europe was, at one time, inhabited exclusively by fair-haired peoples, identified these with the Aryans. No proof of the identification is forthcoming, and, in reality, the hypothesis of a fair-haired Aryan race, tall and dolicocephalic, indigenous to Europe, does not rest on a firmer foundation than that of an Aryan race coming from Asia.

Anthropology, for its part, is, of course, powerless to say whether the ancient owners of the dolicocephalic skulls, unearthed in southern Europe, spoke an Aryan language or not. Moreover, the works of modern philologists, with Oscar Schrader at their head, show that we can no longer speak of an "Aryan race," but solely of a "family of Aryan languages," and, perhaps, of a primitive Aryan civilization which had preceded the separation of the different Aryan dialects from their common stock. This civilization, as reconstituted by Oscar Schrader, differs much from that which Pictet has sketched out in his essay on "Linguistic Palaeontology." It was somewhat analogous to the neolithic civilization; metals were unknown in it, with the exception, perhaps, of copper, but agriculture and the breeding of cattle had already reached a fair stage of development. There is nothing to prove, however, that peoples speaking non-Aryan languages have not been in possession of the same civilization, which, with them, would be developed in an independent manner. Hence Mr. Deniker holds it useless to look for a centre from which this Aryan culture might have proceeded. The only question with which we still may concern ourselves is, What was the point from which diffusion of Aryan languages in Europe began? This point no one at the present time seeks any longer in Asia. It is in Europe, and what we have to do is to define it. Latham and Omalius d'Halloy located the habitat of the primitive Aryans in the south or southeast of Russia. Penka placed it in Scandinavia. Other authorities have selected intermediate points between these extremes. According to Hirt, the starting point of dispersion for the primitive Aryan language was to the north of the Carpathians, in the Letto-Lithuanian regions. From this point, two linguistic streams would start, flowing around the mountains to the west and east. The western stream, after spreading over Germany (Teutonic languages), left behind them the Celtic languages in the upper valley of the Danube, and filtered through on the one side into Italy (Latin languages), on the other side, into Illyria, Albania and Greece. The eastern stream formed the Slav languages in the plains traversed by the Dnieper, and then spread by way of the Caucasus into Asia (Iranian languages and Sanscrit). In this way we may account, on the one hand, for the less and less marked relationship between the different Aryan languages of the present day and the common primitive dialects; and, on the other hand, for the diversity between the two groups of Aryan languages, western and eastern.

On the whole, however, the Aryan question to-day has no longer the importance which was formerly ascribed to it. All that we can assume legitimately is that, in the period touching the neolithic age, the inhabitants of Europe were Aryanized from the view point of language, but without any notable change in the constitution of their physical type, or probably in their civilization.

M. W. H.

Was Savonarola Excommunicated?

An assertion which has been long current among historians is repeated in the last edition of the Encyclopaedia Brittanica. It is to the effect that, soon after Ascension Day, 1497, a bull of excommunication was launched against Savonarola, and was read in the Duomo of Florence, with the appropriate terrifying ceremonial. Is the assertion well founded? The Rev. J. L. O'Neil, O. P., replies in the negative, and, to make good his denial, he has written a book entitled, *Was Savonarola Really Excommunicated?* (Boston: Marlier, Callanans & Co.) The author is not the first to reopen the question, having been preceded by an Italian Dominican, Father John Lottini, the successor of Savonarola, being the present vicar of St. Mark's Congregation in Florence. The latter writer did not enter into any canonical contention as to defects in the Brief of excommunication, neither has he enlarged upon the unfulfilment of legal conditions; he simply drew attention to the nature of the pontifical command, and of the censure attached, and he maintained that the Friar not having committed the prohibited acts, did not render himself amenable to the penalty of excommunication. Believing that Father Lottini's position is well taken, Father O'Neil has essayed to buttress it, and, to that end, has made himself familiar with all the documents bearing on the case.

I.

Before setting forth the conclusion reached by Father O'Neil, we should direct attention to a chapter of his book in which the principles of canon law regarding ecclesiastical censures are discussed. A censure is defined by the canonists as a spiritual and medicinal penalty inflicted by competent ecclesiastical authority on those of the faithful who are delinquent and contumacious, through which penalty they are deprived for a time of the use of certain spiritual goods for the purpose of just punishment, but chiefly to induce them to relinquish their obstinacy in sin. Of the three kinds of censure employed by the Roman Church, the students of the life of Savonarola are concerned with one only, to wit: excommunication, which is defined as a separation from the communion of the Church as to fruit and general suffrages. To render this scholastic language more intelligible to the general reader, Father O'Neil points out that the drawing of this sword, as the Council of Trent designates excommunication, whereby a diseased member is severed from the spiritual body of Christ, is the gravest penalty that the Church can impose; it implies a temporary ejection from the household of God on earth, and a withholding of certain spiritual favors and blessings which are the happy portion of the faithful. The ejection is described as temporary because, while an excommunication might endure, by reason of the sinner's obstinacy, until death, its purpose in the mind of the Church is salutary punishment, leading to a change of life and a return to God through penitence. Considered, therefore, as a disciplinary and healing remedy, the separation of a member from the Body of Christ is not intended to be perpetual. It is, moreover, only *certain* spiritual favors which are withheld by this kind of censure, because, although excommunication deprives its object, either wholly or in part, of the common spiritual goods of the Church, such as the mass and the sacraments, it does not strip him of those which proceed directly from Christ, such as faith and hope, over which the Church does not exercise control, neither does it shut him out from the private prayers of the faithful, since the Church does not wish to raise such a barrier against his aid.

It is further to be noted that, as the right of fulminating such a censure arises from the authority with which Christ has endowed his Church for her proper government, and for just defence against unruly members, the power is not a personal, absolute right, subject to the mere will of prelates, but must be exercised "with great sobriety and moderation." It is safeguarded by conditions in respect of which ecclesiastical law is explicit. The author of this book proceeds to show what these conditions are as they are taught by canonists. In the first place, the infliction of the penalty of excommunication presupposes a very grave offence against faith, morals or ecclesiastical discipline. The sin committed must be not only mortal internally or in conscience, but its enormity must be also externally evident; it must be complete of its kind, and especially prohibited by the Church. In the case, too, of an individual excommunicated, his crime must be entirely personal, his own alone, so to speak, and it must be notorious, before he can be denounced as having incurred the penalty of excommunication. Finally, in his state of guilt, the delinquent must be truly obstinate or contumacious before he can be bound in conscience. The note of contumacy can be imputed only when a warning has been given and has not been heeded. For censures attached to a fixed law, the mere promulgation of the statute constitutes a standing warning; yet, even then, more formal or canonical admonition is needful for the observation of due order, and to make the penalty just. For the valid infliction of censures emanating from a superior commanding a particular thing by way of a personal precept, *some* warning is indubitably necessary. The obligation of a canonical, or triple and written admonition, rests on Scriptural grounds, and has a historical confirmation in the case of Nestorius, who was thrice warned by the Fathers of Ephesus, and, in that of Dioscorus, who was treated in like manner by the Fathers of Chalcedon. According to the doctors in canon law, such a threefold admonition is indispensable to make a sentence legally just, unless the urgent gravity of the case should warrant a superior in giving only one warning, and that peremptorily; according to the present discipline, a period of two days at least should intervene after the formal written announcements.

Without *any* warning, at least verbal, an alleged delinquent cannot be declared contumacious or in contempt, even virtual, of ecclesiastical authority commanding a particular thing by way of a personal precept. As an essential condition, that of contumacy, would be wanting, a censure of excommunication thus promulgated would be invalid. Censures of the kind now contemplated, that is to say, emanating from a superior commanding a particular thing by way of a personal precept, are termed censures *ab homine*, to distinguish them from censures *a jure*, which are attached to laws presumed to be just. With regard to the latter, there can be no question of injustice; it is only in the former that the distinction is drawn between just and unjust. That a censure *ab homine*, such as was ostensibly pronounced against Savonarola by Pope Alexander VI., may be considered both just and valid, the following conditions are required: Jurisdiction, a cause sufficiently proved, a legitimate motive, and a right and lawful order of procedure. Lacking either of the conditions which are not deemed substantial, to wit: a legitimate motive or the accidentals of the right order of procedure, the censure is considered valid before the Church, but unjust. Lacking any of the conditions which are accounted substantial, such as jurisdiction, a cause sufficiently proved, or the essentials of a right order of procedure, such censures are invalid as well as unjust. Both invalidity and injustice must, therefore, be predicated of all censures fulminated either against an innocent person, or without *any* warning or citation to a delinquent, or without juridical proof of the offence. Thus a person must be considered legally innocent, not only when, in conscience, he is really free from the guilt of the alleged offence, but also when, though really guilty, he is juridically acquitted, or not juridically proved guilty. Touching this conclusion there is no dispute, all canonists agree that a censure uttered against such a person would be an abuse of power and of no binding force. On the other hand, in the case of one really innocent, but, through untoward circumstances and weight of evidence, juridically convicted, canonists disagree as to the binding power of a censure fulminated on such a conviction. The more probable opinion, however, supported by eminent authorities, holds that, though such a censure, resting on a false presumption and of error, would be invalid in conscience, yet, out of respect for the authority of the Church, and to avoid scandal, the person thus unjustly censured should pay external respect to the censure until it is withdrawn, or its invalidity is made evident.

II.

Such being the principles of canon law, Father O'Neil proceeds to apply them to the admitted facts in the history of Savonarola. First, did the Friar really incur the censure of excommunication, and, secondly, did he give scandal? If both these questions can be answered in the negative, it is evident that the sentence of excommunication pronounced against him by Alexander VI. was invalid and of no binding force. In the chapter devoted to a consideration of the former question, our author arrives at the conclusion that no excommunication lay against Savonarola on any of the counts enumerated in the Papal Brief of May 13, 1497. He did not defy the Papal summons ordering him to go to Rome; he did not resume his teaching in Florence until he had been assured of the Pope's permission; he did not, in any manner, prohibited by law or right, resist the order to unite the Convent of St. Mark with the recently formed Tusco-Roman Congregation; he did not teach heresy or scandalous doctrine. These facts Father O'Neil thinks that he has clearly established, and we believe that the reader will concur in his opinion.

Having proved that Savonarola was not really excommunicated, our author goes on to meet the objection of those who ask, Did not the Friar give scandal by openly defying the Papal Brief which purported to pronounce a sentence of excommunication? It is pointed out that the canonists make a distinction between scandal *given*, namely, that which comes from words or deeds evil in themselves or having the appearance of evil, and scandal simply *taken*, quite beyond another's intention, and quite apart from the nature of his words or deeds. This *taken* scandal arises either from ignorance or weakness, in which case it is known as *scandalum pusillorum*, or the scandal of the weak; or else it is through evil interpretation the offspring of malice, and, as such, it is called pharisaical scandal, in memory of the Pharisees, who declared that they were scandalized by the most holy words and deeds of Jesus. This distinction brings us to the root of the question, namely, To what extent is one obliged to relinquish spiritual work to avoid the scandal that people might take?

Touching this inquiry, the authority of St. Thomas Aquinas is adduced, who says that spiritual work necessary for salvation, and which cannot be abandoned without sin, must not be relinquished to avoid scandal of any kind or to any one, because charity first obliges a man to seek his own chief spiritual welfare before that of his neighbor. And again, spiritual work which is not necessary for salvation, and which, therefore, can be relinquished without sin should, nevertheless, not be renounced on account of pharasaical scandal, if there is sufficient cause for immediate action, or for not delaying such work. To the same effect is the well-known dictum of the great Pope, St. Gregory: "If scandal is taken at the truth, it is better to let such scandal come rather than to relinquish the truth." In a comment on these words, St. Bernard says: "I would not be silent when vice was to be reduced and truth defended." Applying these principles of canon theology and law to the story of Savonarola's conduct, our author would not deny that his pharasaical enemies took scandal, when, after a time, he resumed his practice of preaching in Florence, notwithstanding the Papal prohibition. Under the circumstances, however, he was morally bound not to be silenced by the apprehension of such scandal. The representative men of the Florentine State, after grave deliberation, were not only fully prepared for Savonarola's preaching at the end of his long seclusion, but all the virtuous citizens were eager to listen to him. The suppression of all sermons, coupled with the renewed activity of the dissolute, had thrown Florence back into the deplorable conditions from which Savonarola's apostolate had rescued her. It was under the impulse of charity, the supreme virtue, that Savonarola, who was ready to lay down his life for souls, was moved to speak. It was after mature counsel with holy and learned men, and because he beheld the spiritual interests of his flock endangered, that he broke the silence he had so long maintained lest he might give scandal to the weak. If, in the face of the Papal prohibition, he ultimately determined to reascend the pulpit, it was because the mere timeliness or expediency of preaching had ceased to be in question, and because the doctrine which he had taught was stigmatized, the truth of Jesus branded as pernicious, and because further silence, would be held a confession of the justice of the slanders published against him. Father O'Neil submits that herein Savonarola followed the teaching of Catholic theology, as inculcated by St. Thomas Aquinas and St. Gregory.

III.

In his last chapter the author asserts that Pope Alexander VI. himself did not regard Savonarola as excommunicated. How otherwise could he have given Savonarola permission to celebrate mass on the day of his execution, although he had granted him no absolution from the bond of excommunication? If the excommunication of the Friar had been regarded by the Pope as valid, absolution at the hands of the Pope himself or of specially delegated persons would have been indispensable. The ordinary power of a confessor would not suffice. Moreover, the apostolic commissaries despatched from Rome to Florence were present at the time of the Friar's death, and, on them would have devolved the exercise of the delegated faculty of absolution had any such faculty been granted or been presumed to be required. Even if we assume that such a faculty had been granted, it is certain that there was no retraction by Savonarola of errors charged; there was no expression of repentance for scandal which might have been given by the offences for which he had been declared excommunicated. A private apology and regret would not have availed. From a man validly and notoriously excommunicated, an open reparation was due; if not by a personal, verbal declaration before his death, at least by an authentic writing for subsequent publication; from this obligation there could be no release by the apostolic commissaries. Had these men not acted in conformity with the Pope's views, and according to his instructions, is it likely, asks Father O'Neil, that the omission of absolution and the neglect of reparation would have been passed over without rebuke from Alexander? As a matter of fact, there was no rebuke from him nor complaint from any one authorized to speak.

Savonarola made no apology. With serene consistency, he went unfalteringly to the death for which he had long prepared, and which he willingly endured for principles of which his life had been an exemplification. He went with the ban still upon him, such as it was; the ban from which he had solemnly announced that he would never seek absolution, because he knew that he had done no wrong meriting such a penalty, and because he believed that the censure was unjust and invalid, without binding force before God or man.

By those who condemn Savonarola as having been really excommunicated, much stress is laid upon the fact that he was a member of a religious order, and that he failed to pay the obedience which he owed to his superiors. With that question Father O'Neil has dealt in an appendix. In the body of the book he merely directs attention to the fact that the Friar's attitude at the close of his life touching the excommunication has met with approval from his own Order, which has taken practically the same stand as that which Pope Alexander took, holding that Savonarola was not really excommunicated. Moreover, as the Friar himself judged that he needed not absolution, so his Order has always regarded his acts of jurisdiction as valid, a thing not sufferable had he been really excommunicated, for then he would have been deprived of all jurisdiction. Neither the Master General of the Order, nor the Cardinal Protector, nor the Commissioner especially appointed to consider his case declared him deposed from his post of Prior of St. Mark's, and throughout the period following the publication of the Brief of Excommunication up to the time of his arrest he discharged all the duties of his office.